



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

SCIENCE

EDITORIAL COMMITTEE: S. NEWCOME, Mathematics; R. S. WOODWARD, Mechanics; E. C. PICKERING, Astronomy; T. C. MENDENHALL, Physics; R. H. THURSTON, Engineering; IRE REMSEN, Chemistry; J. LE CONTE, Geology; W. M. DAVIS, Physiography; HENRY F. OSBORN, Paleontology; W. K. BROOKS, C. HART MERRIAM, Zoology; S. H. SCUDDER, Entomology; C. E. BESSEY, N. L. BRITTON, Botany; C. S. MINOT, Embryology, Histology; H. P. BOWDITCH, Physiology; J. S. BILLINGS, Hygiene; J. McKEEN CATTELL, Psychology; J. W. POWELL, Anthropology.

FRIDAY, SEPTEMBER 1, 1899.

CONTENTS:

The American Association for the Advancement of Science:—

The Columbus and New York Meetings..... 265

Address of Welcome: DR. W. O. THOMPSON..... 267

Address of the President: DR. EDWARD ORTON..... 268

Proceedings of the Association: PROFESSOR FREDERICK BEDELL 272

The Definition of the Element: PROFESSOR F. P. VENABLE 274

Engineering Education as a Preliminary Training for Scientific Research Work: PROFESSOR STORM BULL 282

Fauna and Flora of Puerto Rico: DR. MARK W. HARRINGTON 286

The Botanical Society of America: DR. ARTHUR HOLLIK 288

Scientific Books:—
Ward's Naturalism and Agnosticism: PROFESSOR W. K. BROOKS. *Ripley on the Races of*

Europe: PROFESSOR FRANZ BOAS. *Quarry Industry and Quarry Geology*: F. J. H. M. *The Depopulation of France*: J. McKEEN CATTELL. *General Books Received*..... 288

Scientific Journals and Articles..... 297

Discussion and Correspondence:—
The Schedule for Psychology of the International Catalogue: PROFESSOR J. MARK BALDWIN, PROFESSOR J. McKEEN CATTELL. *Pot-hole vs. Remolino*: DR. GEORGE P. MERRILL 297

Notes on Physics:—
The Transmission of Light through Absorbing Media; Spreading and Reversal of Spectral Lines; Lecture Experiments with the Wehnelt Interrupter; Velocity of Electric Waves in Air: W. S. F. 298

Notes on Inorganic Chemistry: J. L. H. 299

Return of the Wellmann Expedition..... 300

Scientific Notes and News..... 300

University and Educational News..... 304

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE second half century in the history of the American Association was begun worthily last week at Columbus. It might have been feared that a meeting following the celebration of the fiftieth anniversary at Boston and held at some distance from the Atlantic seaboard would witness a small attendance and perhaps a lack of interest. This was by no means the case. The attendance was larger than at Detroit, Buffalo, Madison and Cleveland, and about the same as at Springfield, Indianapolis and Ann Arbor, while it was the unanimous opinion of those present that the meeting was in every respect profitable and enjoyable.

It seems evident that the Association has now entered upon a new era. In the course of fifty years the environment has altered greatly and for a little while there seemed to be some danger lest the Association might fail to adjust itself to the new condi-

tions. The missionary and social aspects of its work have become somewhat less important, while specialization in science seemed to give a heterogeneity that threatened to break up the parent Association into numerous special societies. But the Columbus meeting confronted any such theory with the unanswerable argument of success. The entertainment was admirably arranged so as to provide social intercourse without interfering with the scientific work of the sections, while in turn the meeting will assist the Ohio State University in the great career upon which it has entered. The affiliation of nine separate societies, either by amalgamation with the sections or by simultaneous meetings, proves that the specialization demanded by modern science may, in fact, contribute to the weight and authority of the Association representing science in America.

The organization of the Association and of the separate sections has in the past been somewhat amorphous. A council with no real powers, consisting chiefly of past Presidents usually absent and officers newly elected without special reference to their functions as councillors, could scarcely be expected to decide upon or to continue a definite policy. But at Boston amendments to the constitution were incorporated, giving the council authority to decide important questions and making it a truly representative and deliberative body. At Columbus further amendments were adopted assuring the presence of vice-presidents for two consecutive meetings and making them members of the council for three years. This action will also strengthen the sectional committees by giving them at

least one member who has had some experience. We urge that Vice-Presidents should be members of the sectional committees for at least three years, as they now are of the council, and trust that an amendment to this effect may be introduced next year. On the other hand, it would probably be desirable for the secretaries of the sections to be members of the council only for the year in which they hold office.

The improvement in the deliberations of the council at Columbus was very evident. All business was transacted promptly, and wisely, without undue haste or undue delay. The council made the important decisions entrusted to it with a sense of its responsibility, and the amendments to the constitution recommended to the general session were adopted without dissent. The proposal to meet in New York next year was quite unexpected, it being supposed that either Denver or Philadelphia would be chosen. No formal invitations had been prepared, and it was expressly stated that the members from New York did not regard that city as a suitable place for public or private hospitality. A radical change in the time of the meeting was also proposed. Yet the council was able to consider these propositions on their merits and to come to a practically unanimous decision.

The wisdom of this decision cannot be questioned. After the meeting in Ohio precedent pointed to one of the great Eastern cities for the following year, where a large attendance could be expected. It is equally desirable to hold soon a meeting further towards the West than hitherto, and the recommendation to accept the cordial Denver invitation for 1901 sets a good pre-

cedent in designating a place for meeting well in advance. A week for the meeting immediately following the close of the colleges in June has much to recommend it. It does not break into summer expeditions, summer work and summer vacations as does a week in August, and the weather is likely to be favorable. New York City and the last week in June will be especially convenient next year for the large number of scientific men who at about that time will leave New York to attend the scientific congresses of the Paris Exposition.

The New York members do not propose to arrange for a welcome by the Mayor or his representative from Tammany Hall; they do not think that the Association can do much missionary work in the city or that the city can offer them entertainments and excursions, but they believe that they can make good arrangements for the scientific work of the sections and of the affiliated societies and can welcome the Association to a city that has made unusual scientific advances since the New York meeting of 1887. During these few years Columbia and New York have become great universities whose development is fittingly represented on new sites by magnificent libraries and laboratories; the American Museum of Natural History has perhaps quadrupled its buildings and collections; a museum of art and antiquities unsurpassed in America has been erected; a great public library has been founded and its building is in course of construction; an aquarium has been formed, and a botanical garden and a zoological park have been established that are preparing to rival the similar institutions of the great European cities.

Next year for the first time a place in the Association will be provided for students of physiology and experimental medicine, and for the first time the American Mathematical Society; the Society for the Promotion of Engineering Education and probably other societies will meet as part of the Association; the address of the retiring President will be made by a man honored and beloved of all; the meeting will be presided over by a leading man of science, whose services to the Association have been preëminent, and the arrangements will be made by a Permanent Secretary who has already proved his wisdom and ability. It is certain that there will be next year in New York an excellent meeting, and that it will be followed by a series of meetings that will make greatly for the advancement of science in America.

ADDRESS OF WELCOME.

DR. W. O. THOMPSON, President of the Ohio State University, said: It is a genuine pleasure to stand here this morning in the name of the Ohio State University, and extend a hearty welcome to the American Association for the Advancement of Science. We welcome you to our grounds, our buildings and our hearts. We pledge you now our utmost endeavor to make your stay as pleasant as we expect the meetings to be profitable.

There is no place on the continent where a company of men devoted to the study of science could be more welcome than at a State university. They are the peoples' institutions and have devoted their strength and energy to preparing young men and women for active participation in the rapidly growing civilization about us.

I need not remind you that the great Ordinance of 1787 was the beginning of public